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**University Research Consortium Showcases Work, Potential Economic Impact At Capitol**

Louisiana lawmakers were treated to a close-up look at some of the innovative and valuable research being conducted at Louisiana's research universities in the rotunda of the Capitol on April 29. The "Consortium for Micro-Nano Technologies for Advanced Physical, Chemical and Biological Sensors," as the group of nine universities is called, includes Louisiana research institutions which are collaborating on micro- and nano-scale science and technology research through funding from the National Science Foundation and the Board of Regents.

Faculty and student researchers, as well as some industry representatives, were available at the Capitol on Tuesday to explain the research being conducted by the consortium. Research benefits showcased at the event included such biomedical and biological applications as the use of nanotechnology tools to study the brain and for new approaches to brain damage caused by epilepsy and to understand the cause and find the cure for blinding eye diseases; and for novel approaches to understanding communication between brain cells that are leading to a better understanding of memory formation.

Other areas include research that could lead to therapeutic intervention to prevent, reduce or abolish tobacco use; the development of antennas that reduce the probability of detection and interception of the Navy's small combat crafts; the commercialization of a micro-sized gas chromatograph, the most widely used analytical instrument in the manufacture and use of synthetic chemicals and fuels; a method to

encapsulate medicine and drugs in capsules 100 times smaller than a hair that allow slow release and provide a longer effect; and the synthesis a characterization

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### **ADD TWO**

of nanometer-sized particles. A nanometer is about 200,000 times smaller than the width of a human hair.

“Today’s event underlines a significant benefit of Louisiana postsecondary education that may not get as much publicity as traditional classroom study,” said Commissioner of Higher Education E. Joseph Savoie. “Louisiana’s Master Plan for Public Postsecondary Education is distinguished by its emphasis on the role of postsecondary education in stimulating the economic and social vitality of the state. In fact, one of the three major objectives of the Master Plan is to ‘enhance services to communities and to the state.’ Obviously, the EPSCoR program and the exciting research and resulting technologies represented in the Capitol rotunda are excellent examples of how the faculties of our colleges and universities can indeed serve our citizens of our state, on both the regional and state levels.”

The consortium is comprised of three teams: nanomaterials; micro/nanofabricated systems; and neural signaling. Charles O’Connor, the consortium’s research coordinator and director, University of New Orleans Advanced Materials Research Institute (AMRI), heads the nanomaterials team; Kody Varahramyan, director, Louisiana Tech University Institute for Micromanufacturing, is principal investigator of the micro/nanofabrication team; and Nicholas Bazan, director, the LSU Health Sciences Center-New Orleans’ Neuroscience Center, is the principal investigator of the neural signaling team.

“One of the main strengths of the consortium is that it has established new avenues of cooperation among very different scientific disciplines - chemistry, engineering, and neuroscience - and has focused these efforts into creative new approaches to laboratory research leading to breakthrough discoveries that can be applied to the design and manufacture of analytical instruments, the understanding of disease mechanisms - as in pain, Alzheimer’s disease, or stroke - and the development of new therapeutic drugs and drug-delivery strategies,” said Dr. Nicholas Bazan.

Rusty Jabour, director of policy for Governor Mike Foster, applauded the EPSCOR

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### **ADD ONE**

program as an example of how the state's strategic plan for economic development, "Vision 2020," is bringing universities and business together to grow new industries and jobs in Louisiana and to reverse the out-migration of young professionals to other states.

"Vision 2020 calls for Louisiana to rank among the top 10 states in good things, and we're working to make that happen. In fact, we've seen tremendous progress in education and economic development. Already, our universities and Louisiana Economic Development are working to change Louisiana's business model from one that exports its inventions and new ideas elsewhere to one that imports companies and people to develop those good ideas right here at home."

The consortium is the centerpiece of a three-year, \$9 million National Science Foundation (NSF) grant awarded to the Board of Regents Louisiana EPSCoR (Experimental Program to Stimulate Competitive Research) program in 2001. The grant, the largest received to date by LA EPSCoR, was matched by \$3 million from the Board of Regents Support Fund and \$3.8 million pledged by the participating universities.

"Within 18 months of receiving the NSF/EPSCoR grant, the consortium had been awarded 27 grants totaling over \$10.3 million in external funding and three patents, with another 15 pending," said Michael Khonsari, LA EPSCoR project director and the Regents' associate commissioner for sponsored programs research.

The capabilities and techniques being practiced at the Louisiana Tech University Institute for Micromanufacturing, the University of New Orleans Advanced Materials Research Institute, and the LSU Health Sciences Center in New Orleans' Neuroscience Center were highlighted at the event. Other participating universities included Grambling State University, Louisiana State University and A&M College, Southern University and A&M College, Tulane University, University of Louisiana – Monroe,

and Xavier University. A number of private companies also participated.

The Board of Regents' Louisiana EPSCoR and National Science Foundation EPSCoR sponsored the event at the Capitol.

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